ABSTRACT

EXTERNAL FAULT TOLERANT SHARED MEMORY UNIT IN A DISTRIBUTED MULTIPROCESSING SYSTEM

A distributed multiprocessing system, comprises several hosts (2, 3, 4) connected to a network (1); each host has a processing unit (21, 31, 41) and internal memory (22, 32, 42) accessed by the processing unit; in addition, each host further has an access device (24, 34, 44) connected to a fault tolerant external memory unit (6) by a fast connection (25, 35, 45). Each processing unit accesses the external memory unit transparently.

The processing units of the distributed multiprocessing system thus share the same view of the external memory unit. This makes it possible to use symmetric multiprocessing memory sharing mechanisms, in a distributed multiprocessing system, due to the reduction of latency overheads by 4 or 5 orders of magnitude compared with standard DMP interconnect methods

Figure 1.